

HOW I DO IT

Percutaneous Biliary Stents for Palliation of Hilar Malignancies

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In patients with malignancies involving the hilum of the liver, such as cholangiocarcinoma and gallbladder cancer, surgical drainage is unrewarding and endoscopic stent placement is often unsuccessful. In these patients, a percutaneous approach to the biliary tree is frequently required. These patients may be managed with percutaneously placed drainage catheters alone, but the catheters serve as a source of discomfort, daily catheter care is required, and the catheters themselves are a constant reminder of the underlying tumor. Some patients find them psychologically intolerable for this last reason alone.

Indwelling plastic biliary stents have been used for many years, but recently they have been largely superseded by metallic stents, especially the Wallstent (Schneider, Minneapolis, MN) [1]. For biliary applications, stents as large as 30 French can be placed using a delivery system that is only 7 French. Although the Wallstent is self-expanding, it is often helpful to predilate the tumor with an angioplasty balloon catheter. The average patency of a Wallstent in the biliary tree is approximately 6 months [2]. This is adequate in patients with the limited life expectancy that is characteristic of individuals with malignant obstruction of the biliary tree. Metallic biliary endoprostheses have been recommended as optimal palliation for patients with an estimated survival of 6 months or less [3].

Stents must extend sufficiently proximal and distal to the stenotic segments of the biliary tree so that tumor will not reocclude the ducts by growing into the ends of the stent [4]. Tumor ingrowth through the sides of Wallstents is less of a problem [5].

While it is not necessary to drain the entire biliary tree to relieve jaundice, it is often essential to place drainage catheters or stents in more than one intrahepatic duct to treat cholangitis, as was the case with the patient illus-

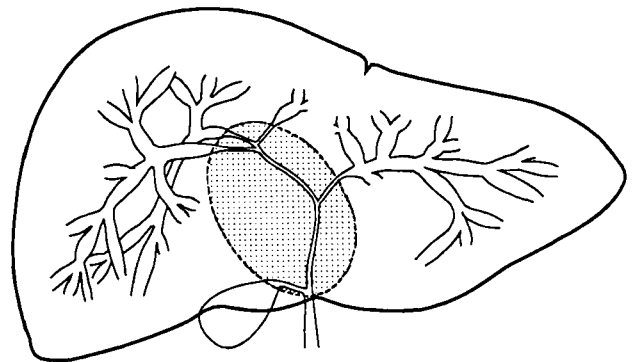


Fig. 1. A 60-year-old woman with chronic hepatitis C and cholangiocarcinoma presented with fever and right upper quadrant pain. A nasobiliary catheter was placed into the left hepatic duct at ERCP, but the patient remained febrile despite the drainage procedure and intravenous antibiotics. This drawing demonstrates the biliary tree and the tumor (shaded oval), which has obstructed the common hepatic duct, the cystic duct, the left hepatic duct, the right hepatic duct, and the central portions of the right anterior hepatic duct and the right posterior hepatic duct.

trated in Figures 1 and 2. Isolated, undrained segments of the biliary tree are an ideal culture medium for bacteria. As a practical matter, however, it is very uncommon to drain more than two or three duct territories because of the difficulty in obtaining and maintaining access to multiple affected ducts [4].

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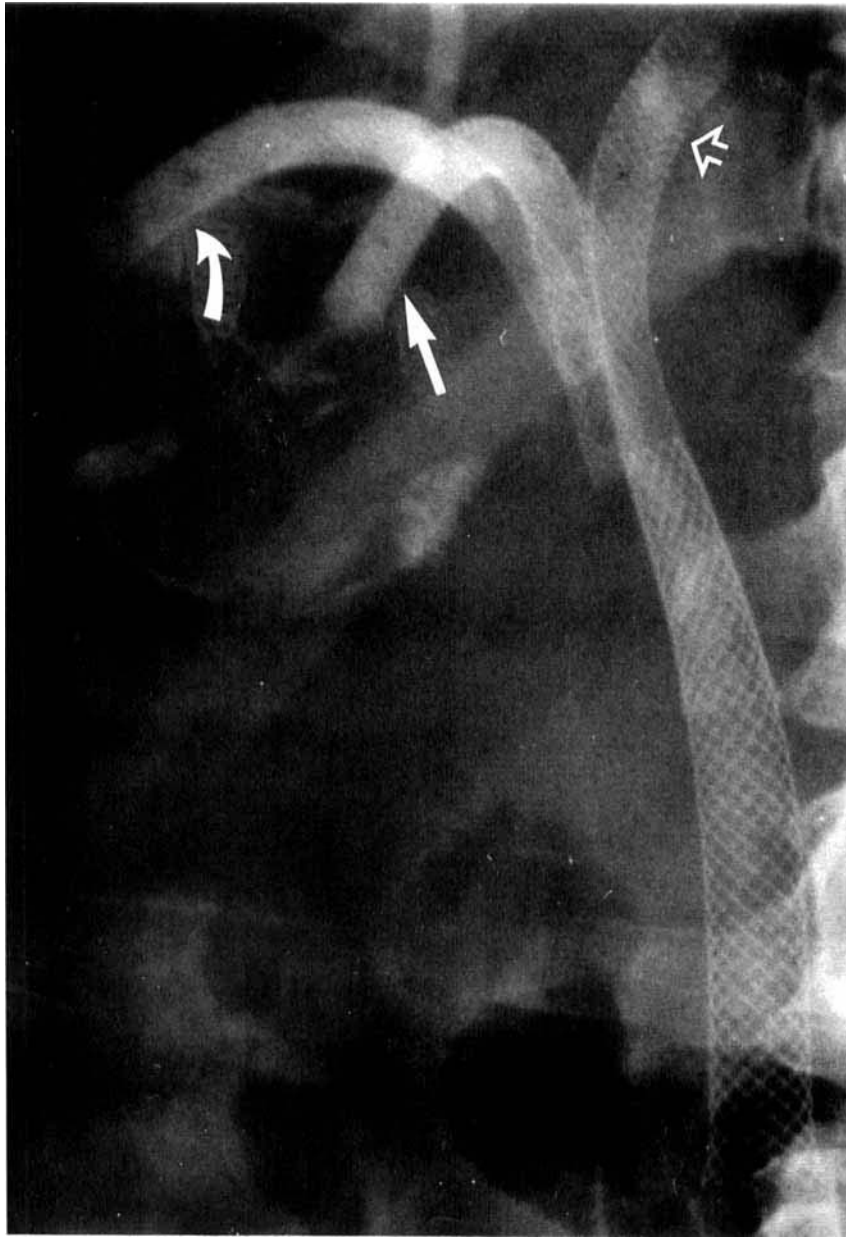


Fig. 2. Biliary decompression was achieved by percutaneous puncture and placement of drainage catheters in the left hepatic duct, right anterior hepatic duct, and right posterior hepatic duct. Several days later, Wallstents were placed from these ducts (straight arrow, right posterior hepatic duct; curved arrow, right anterior hepatic duct; open arrow, left hepatic duct) into the common hepatic duct and common bile duct. The drainage catheters were then removed. Stent sizes ranged from 18 French in the right posterior hepatic duct to 30 French in the common bile duct. Seven stents were required to fully stent the affected portions of the biliary tree.

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